Bacteria -> Gram- -> Rod -> Aerobe -> Legionella

*Legionella*

* No animal reservoir
* No person-person spreading
* Ubiquitous in soil and water
* Opportunistic pathogen

**Legionellosis**

* Low attack rate with high mortality (20%)
* Causes pneumonia with permanent damage

**Pontiac Fever**

* High attack rate with low mortality
* Self-limiting flu-like symptoms

**Pathophysiology**

* Grow and divide in macrophage
  + Binds to host CR3 preventing phagosome fusion with lysosome
* Lung damage due to protease
  + Results in “moth-eaten” lungs with fluid-filled patches

**Amoeba Lifestyle**

* Legionella grows in amoeba in the water
* Makes them resistant to disinfectants, have higher pathogenicity, and a safe niche

**Diagnosis**

* Culture of sample
* ELISA of urine – only detects 1 serotype

**Treatment**

* Macrolide or Fluoroquinolone

**Prevention**

* Boil water, UV light, Cu-Ag ionization